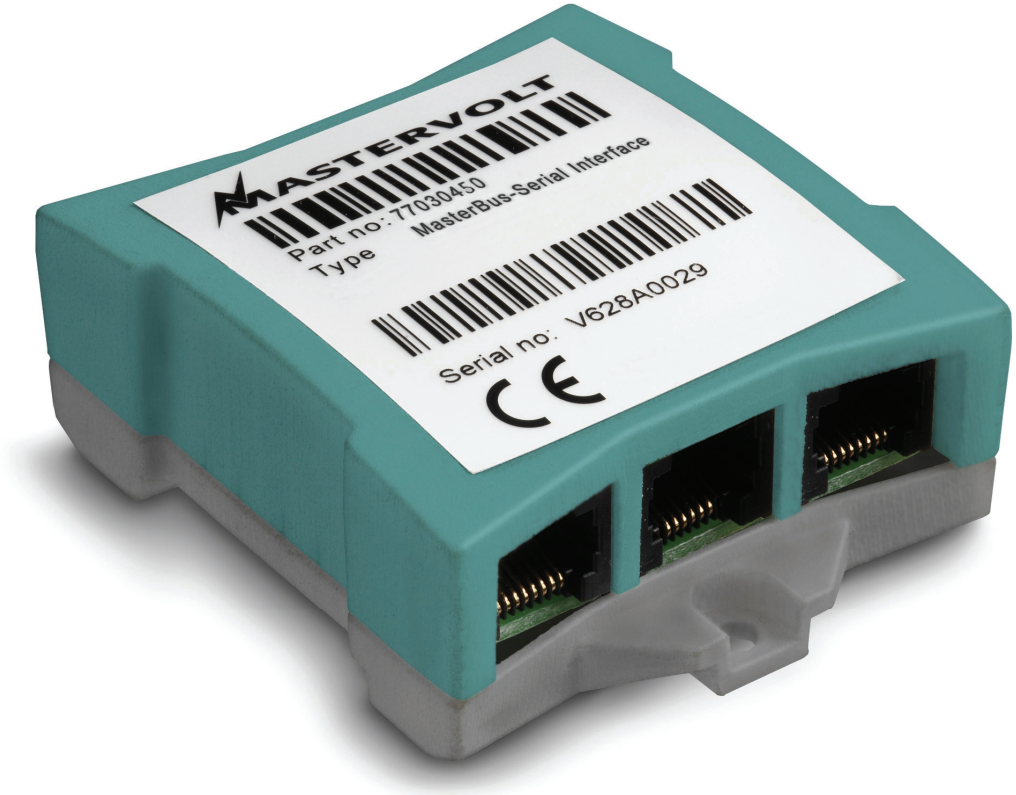
MASTERVOLT

USERS MANUAL

MasterBus – Serial Interface

Interface between serial bus and MasterBus network



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ENGLISH

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1 GENERAL INFORMATION

1.1 USE OF THIS MANUAL

This manual serves as a guideline for the safe and effective operation, maintenance and possible correction of minor malfunctions of the *MasterBus - Serial interface*.
This manual is valid for the following models:

Description	Part number
MasterBus - Serial interface	77030450

Keep this manual at a secure place!
The English version has 8 pages.

1.2 IMPORTANT TO KNOW

Incorrect installation may lead to damage to the MasterBus-Serial interface and the connected Mastervolt devices. Be sure that all equipment is disconnected from any power source during installation.

1.3 GUARANTEE SPECIFICATIONS

Mastervolt guarantees that this product was built according to the legally applicable standards and stipulations. If you fail to act in accordance with the regulations, instructions and stipulations in this user's manual, damage can occur and/or the product will not fulfil the specifications. This may mean that the guarantee will become null and void.

IMPORTANT: Additional warranty agreements, like "Mastervolt system warranty" may contain restrictions which forbid resetting of historical data

1.4 LIABILITY

Mastervolt can accept no liability for:

- Consequential damage resulting from the use of the MasterBus-Serial interface and/or the MasterAdjust software;
- Possible errors in the included manuals and the consequences of these.
- Use that is inconsistent with the purpose of the product

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2 MASTERBUS

2.1 WHAT IS MASTERBUS?

All devices that are suitable for MasterBus are marked by the MasterBus symbol.

MasterBus is a fully decentralized data network for communication between the different Mastervolt system devices. It is a CAN-bus based communication network which has proven itself as a reliable bus-system in automotive applications. MasterBus is used as power management system for all connected devices, such as the inverter, battery charger, generator and many more. This enables communication between the connected devices, for instance to start the generator when the batteries are low.

MasterBus reduces complexity of electrical systems by using UTP patch cables. All system components are simply chained together. Therefore each device is equipped with two MasterBus data ports. When two or more devices are connected to each other through these data ports, they form a local data network, called the MasterBus. The result is a major reduction of material costs and installation time as only a few electrical cables are needed to connect the devices.

For central monitoring and control of the connected devices Mastervolt offers a wide range of panels which show full status information of your electrical system at a glance and a push of a button. Four different panels are available, from the small Mastervision compatible 120 x 65mm LCD screen up to the full colour MasterView System panel. All monitoring panels can be used for monitoring, control and configuration of all connected MasterBus equipment.

New devices can be added to the existing network in a very easy way by just extending the network. This gives the MasterBus network a high degree of flexibility for extended system configuration, today and in future!

For information how to set up a MasterBus network refer to the manual of your MasterView display.

3 INSTALLATION

3.1 CONNECTION

What you need:
- ☑ MasterBus-Serial interface (included)
- ☑ MasterBus connection cable (included, 6m)
- ☑ RS232 crossed wire (included)

See figure 1
- Insert the MasterBus connection cables into the MasterBus data ports of the MasterBus – Serial interface.
- Connect the Serial connection cable between the MasterBus – Serial interface and the Serial port of your device.

Only the RS232 devices mentioned in chapter 4 are suitable for using the MasterBus-Serial interface.

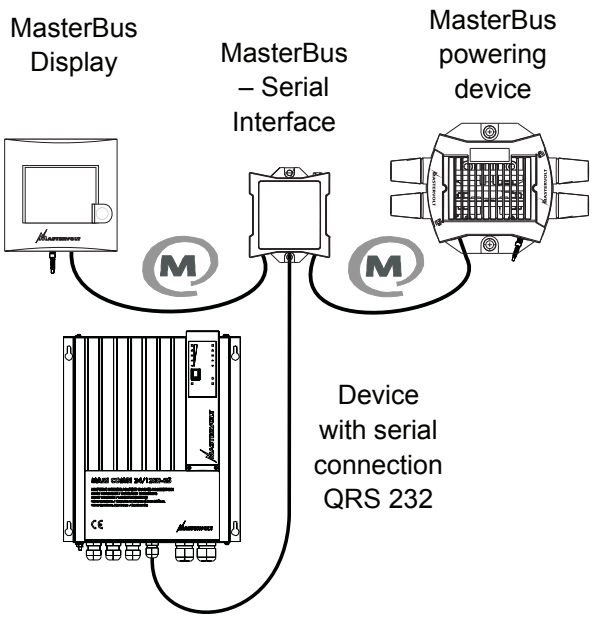

Figure 1: MasterBus-Serial interface in system

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4 COMMUNICATION

The MasterBus-serial interface connects your non-MasterBus device to the MasterBus network. This enables monitoring and configuration with a MasterView display or the MasterAdjust software.
This chapter offers an overview of the MasterBus functions that are available with your device. These will show on a MasterBus display like the MasterView Easy or on a MasterAdjust screen.

4.1 MASS CHARGER

Monitoring, Alarm and Configuration menu.

MONITORING

Settings	Variables
Device	State
	Charge state
	DC Voltage
	DC Current

ALARMS

Settings	Variables
Alarm	Sense failure
	High temperature
	Short circuit
	DC error
	TC error

CONFIGURATION

Settings	Variables
Serial inter.	Language
	Device type
Bulk settings	Bulk voltage
	Bulk time
	Bulk return time
Absorption	Abs. voltage
	Max. absorp. time
	Min. absorp. time
Float settings	Float voltage,
	Force float vo.
Alarm settings	DC Alarm high On
	DC Alrm high Off
	DC Alarm low On
	DC Alrm low Off
	DC Alarm delay
Extra settings	Bulk return volt
	Return amps
	Max. current
	Diode compensate
	Temp. compensate
	Gel compensate

4.2 MASS COMBI

Monitoring and Configuration menu.

MONITORING

Settings	Variables
Basic setup	Mode
	Input select
State	State
	Load (%)
Charger	Charge state
	Battery voltage
	Charge current
AC input	AC input (V)
	AC input (A)
AC output	AC output (V)
	AC output (A)

CONFIGURATION

Settings	Variables
Serial interface	Language
	Device type
Bulk settings	Maximum current
	Bulk voltage
	Bulk time
	Bulk return time
Absorption	Abs. voltage
	Max. absorp. time
	Min. absorp. time
Float settings	Float voltage
	Force float vo.
Alarm settings	DC Alarm high On
	DC Alrm high Off
	DC Alarm low On
	DC Alrm low Off
	DC Alarm delay
	All error
	Battery voltage
	AC out, AC load, Load level
Extra settings	Bulk return volt
	Return amps
	Temperature compensate
	Gel compensate
	Inverter voltage
	Generator limit
Jumpers	Parallel mode
	Inverter frequency
	Energy mode
	Battery type
	Ground relay
	Power sharing, Power support,
	Mains support Power quality
	Equalize
Events	Event 1 source

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4.3 MAC/ MAGIC

Monitoring and Configuration menu.

MONITORING

Settings	Variables
Mac/Magic	Mode
	On (yes, no)
	Input voltage
	Output voltage
	Output current
	Dimmer percentage

CONFIGURATION

Settings	Variables
Serial interface	Language
	Device type
Main	Mode
	Nominal voltage
	Use dipswitches
	Remote switch
	Shutdown voltage
	Low input off (V)
	Low input on (V)
	High input off (V)
	High input on (V)
	Delay time
	Current limit (%)
Stabilize	Force float (V)
Dimmer	Dimmer low (V)
	Dimmer high (V)
	Keep
Charger	Start new cycle (V)
	New charge cycle (V)
	Absorption time
	Absorption (V)
	Float (V)

4.4 BTM-III

Monitoring, History and Configuration menu.

MONITORING

Settings	Variables
Bank 1	State of charge
	Time remaining
	Ah consumed
	Battery voltage
	Battery current
Bank 2	Battery voltage
	State of charge
Bank 3	Battery voltage
	State of charge

HISTORY

Settings	Variables
History	Since startup
	Since alarm
	Since full
	Cycles count
	Battery low
	Calculated CEF
	Total consumed
	Avg. discharge
Min/Max history	Bank 1 deepest (Ah)
	Bank 1 deepest (V)
	Bank 1 lowest (V)
	Bank 1 highest (V)
	Bank 2 lowest (V)
	Bank 2 highest (V)
	Bank 3 lowest (V)
	Bank 3 highest (V)

CONFIGURATION

Settings	Variables
General	Language
	Name bank 1
	Name bank 2
	Name bank 3
	No shunt
	Energy save
Bank 1	Nominal voltage
	Battery capacity
	Average load
	Charge current
	Alarm
	Low voltage
	High voltage
	Low delay
	Battery empty
	Battery full
	Min. run time
	Max. run time
Bank 2	Nominal voltage
	Battery capacity
	Average load
	Charge current
	Alarm
	Low voltage
	High voltage
	Low delay
	Battery empty
	Battery full
	Min. run time
	Max. run time
Bank 3	Nominal voltage
	Battery capacity
	Average load
	Charge current
	Alarm
	Low voltage
	High voltage
	Low delay
	Battery empty
	Battery full
	Min. run time
	Max. run time
Advanced	Bank 1 CEF
	Bank 1 Peukert
	Bank 1 reset
	Return amp.
	Float
	Bank 2 CEF
	Bank 2 Peukert
	Bank 2 reset
	Bank 3 CEF
	Bank 3 Peukert
	Bank 3 reset
	Bank 3 reset
	Reset to factory

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5 ORDERING INFORMATION

Part number	Description
77040000*	MasterBus terminating device*
77040020	MasterBus connection cable (UTP patch cable), 0,2m / 0.6ft
77040050	MasterBus connection cable (UTP patch cable), 0,5m / 1.6ft
77040100	MasterBus connection cable (UTP patch cable), 1,0m / 3.3ft
77040300	MasterBus connection cable (UTP patch cable), 3,0m / 10ft
77040600*	MasterBus connection cable (UTP patch cable), 6,0m / 20ft*
77041000	MasterBus connection cable (UTP patch cable), 10m / 33ft
77041500	MasterBus connection cable (UTP patch cable), 15m / 49ft
77042500	MasterBus connection cable (UTP patch cable), 25m / 82ft
77050000	Complete set to assemble UTP patch cables. Delivery includes: 100m / 330ft UTP cable, 50 pcs. modular jacks and crimping tool
6502001030	Serial connection cables RS 232-cross wired, 6m
6502100100	Serial connection cables RS 232-cross wired, 10m
6502100150	Serial connection cables RS 232-cross wired, 15m
6502100200	Serial connection cables RS 232-cross wired, 20m
6502100250	Serial connection cables RS 232-cross wired, 25m

* These parts are standard included with the delivery of the *MasterBus - Serial interface*

Mastervolt can offer a wide range of products for your electrical installation, including an extended program of components for your MasterBus network or MasterVision switchboard.
See our website www.mastervolt.com for a complete overview of all our products

6 TROUBLE SHOOTING

Contact your local Mastervolt Service Centre if you cannot correct a problem with the aid of the malfunction table below. See www.mastervolt.com for an extended list of Mastervolt Service Centres.

Failure	Possible cause	What to do
No MasterBus activity is present.	There is no MasterBus powering device connected or switched on.	Connect and/ or switch on the MasterBus powering device (like the MasterShunt).
The green LED on the interface is not illuminated or blinking.	The MasterBus - Serial interface has not been connected to the serial port.	Check serial cable and connections between the MasterBus – Serial interface and the serial port.
	The MasterBus - Serial interface has not been connected to the MasterBus port.	Check MasterBus cables and connections.
The connected device cannot be found.	Connected device is switched off.	Switch on connected device
	Error in the wiring.	Check the serial cables. You need Cross wired serial cables (1 to 6), no MasterBus cables.
	Wrong connections. The MasterBus cable shall not be linked to a non-MasterBus connector like RS232. And the serial cable shall not be linked to the MasterBus connector.	Check the connections.
No communication between the connected device and the MasterBus network.	If a setting of the connected device has been changed, communication between the MasterBus network and the connected device may take a few seconds.	Wait for a few seconds.
	Error in the wiring.	Check the MasterBus cables and serial cable. You need Cross wired (1 to 6) serial cables (no Straight wired cables and no MasterBus cables).
	No terminating device placed at the ends of the network.	Check if terminating devices are installed on both ends of the MasterBus network (see manual of the MasterBus powering device).
	MasterBus network is configured as a ring network.	Ring networks are not allowed (see manual of the MasterBus powering device). Check the connections of the network.

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Failure	Possible cause	What to do
	T-connections in the MasterBus network.	Check if there are no T-connections in the network. T-connections are not allowed (see manual of the MasterBus powering device).
Wrong language is displayed.	Wrong setting of the language at the Serial Interface.	Click on the “Language” menu and select the desired language.
	Wrong setting of the language at the MasterBus display.	Each separate connected device can have its own language setting, including the display. See user’s manual of the display.

7 TECHNICAL INFORMATION

7.1 SPECIFICATIONS

Model:	MasterBus – Serial interface
Article number:	77030450
Delivery includes:	Interface, Serial connection cable, MasterBus cable, MasterBus terminating device, user’s manual
Function of instrument:	Communication interface between a Mastervolt serial bus device and the MasterBus network.
Compatible with:	Mass Combi, Mass Charger, MAC/ MAGIC
Manufacturer:	Mastervolt Amsterdam, the Netherlands
MasterBus Powering capabilities:	No
Power consumption:	144 mW
Weight	Approx. 80 gr
Protection degree:	IP 21
Dimensions:	66 x 78 x 32 mm; see drawing below

7.2 DIMENSIONS AND CONNECTIONS

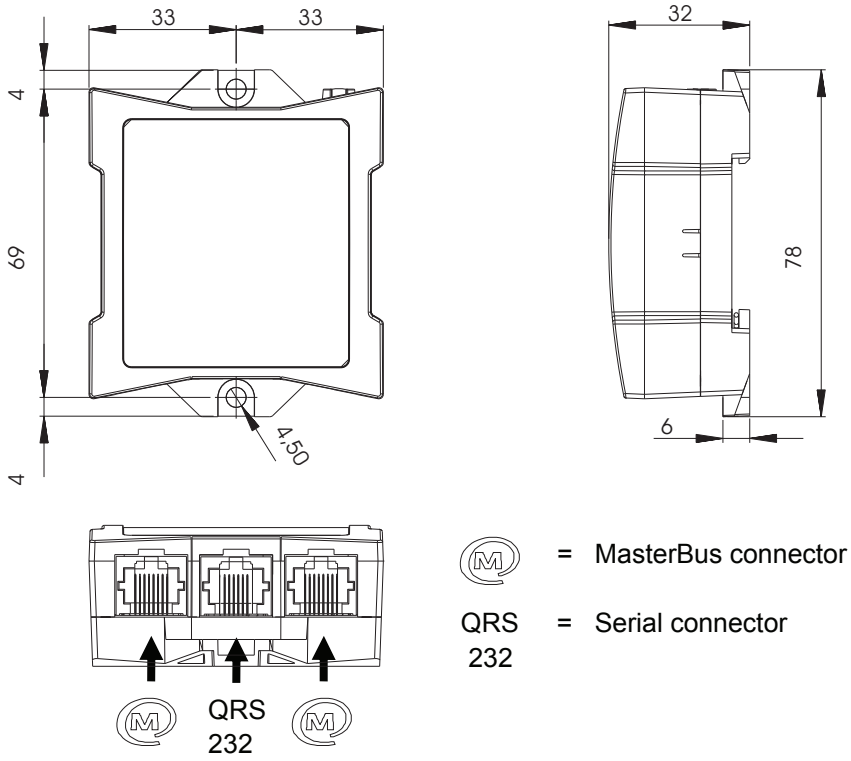

Figure 2

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8 EC DECLARATION OF CONFORMITY

Manufacturer Mastervolt
Address Snijdersbergweg 93, 1105 AN Amsterdam
The Netherlands

Herewith declares that:

Product:
77030450 MasterBus – Serial Interface

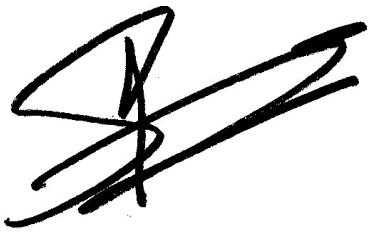
Is in conformity with the provision of the EC EMC directive 89/336/EEC and amendments 92/31/EEC, 93/68/EEC.

The following harmonised standards have been applied:

Generic emission standard: EN 50081-1:1992
Generic Immunity standard: EN 50082-1:1997

Safety directive 2006/95/EC, with the following standard:
Low voltage standard: EN 60950: 2000

Amsterdam,



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